

Vs Va Vsc Ve  
Voltages

## SERVICE BULLETINS

2 011 PDP Option Byte Table  
ASC20110630001

**Quick Parts: Verify before Ordering**

Parts Category	Version	Parts No	Short Description
PCB	ALL	BN44-00445A	Power PCB
PCB	ALL	BN94-04354D	Main PCB
PCB	Y101	BN96-16531A	Logic Main PCB
PCB	Y302	BN96-16531A	Logic Main PCB
PCB	ALL	BN96-16532A	Buffer E
PCB	ALL	BN96-16533A	Buffer F
PCB	ALL	BN96-16534A	Buffer G
PCB	ALL	BN96-16535A	X Main
PCB	ALL	BN96-16536A	Y Main
PCB	ALL	BN96-16537A	Buffer X
PCB	ALL	BN96-16538A	Buffer Y Up
PCB	ALL	BN96-16539A	Buffer Y Down
PCB	ALL	BN96-16729B	Function & IR PCB
PCB	ALL	BN96-17107A	RF module PCB
PCB	Y403	BN96-20516A	Logic Main PCB
PCB	Y404	BN96-20516A	Logic Main PCB
Display	Y101	BN96-18090A	Panel
Display	Y302	BN96-18091A	Panel
Display	Y403	BN96-20265A	Panel
Display	Y404	BN96-20266A	Panel
Cosmetic	ALL	BN63-07800A	Bottom Cover
Cosmetic	ALL	BN96-16776A	Front Cover
Cosmetic	ALL	BN96-16784C	Rear Cover
Cosmetic	ALL	BN96-16795B	Stand Base
Cosmetic	ALL	BN96-16885A	Stand Guide
Cosmetic	ALL	BN96-18641A	Stand Guide Neck
Component	ALL	3903-000552	Power Cord
Component	ALL	BN96-18071D	Speaker
Component	ALL	BN96-18130F	LVDS Cable
Accessory	ALL	AA59-00482A	Remote

**HELP** : 888-751-4086; 866-894-0637 FE)

GSPN

<http://gspn3.samsungcsportal.com>

### PLUS ONE

<http://my.plus1solutions.net/clientPortals/samsung>

### HOT TIPS

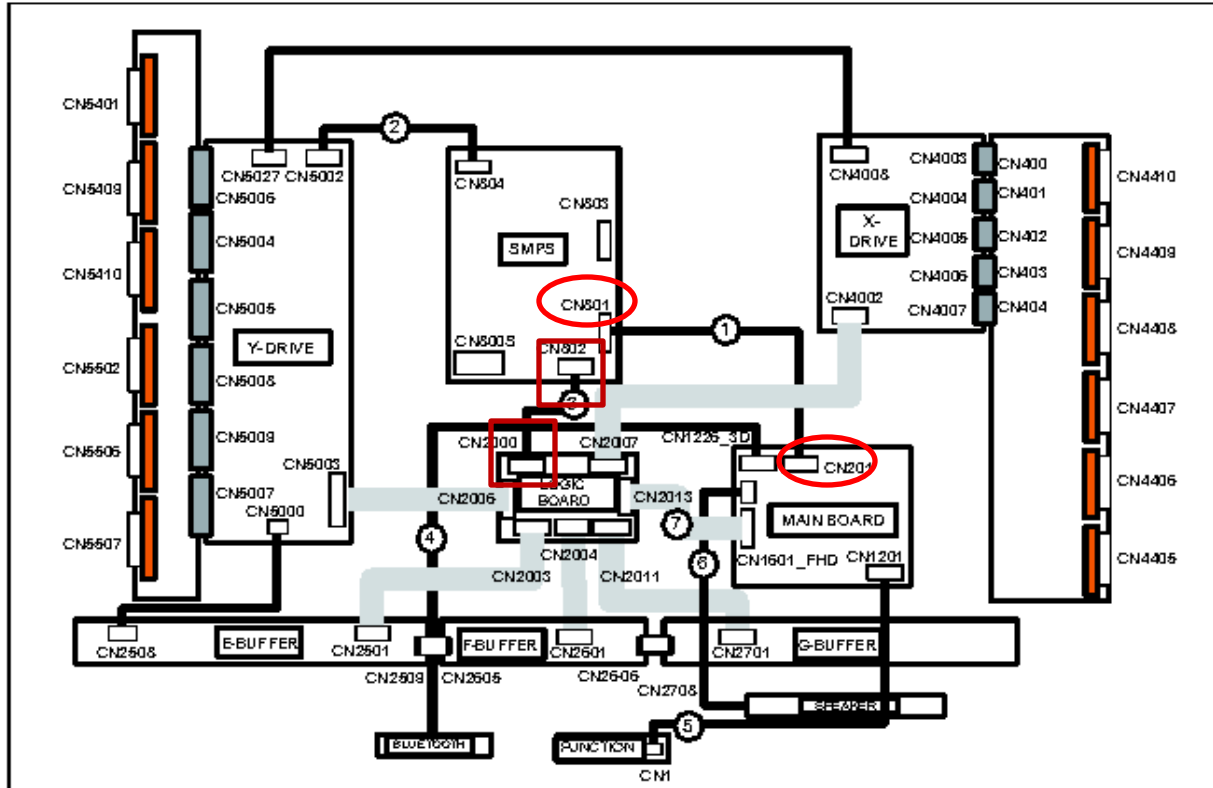
If the set has "grainy" video, verify the sources first. If they are good, check the OSD. If that is fine, narrow the inputs if possible. Digital noise will show up as artifacts that customers will describe as "Grainy" and can occur on the HDMI inputs. If this only occurs on the HDMI inputs, and you know the sources are good, replace the main board. Also check external HDMI Cable is < 40 feet.

## FIRMWARE

[T-MST4AUSC.exe\(24.9MB\)](#)

Avail on GSPN or Samsung,Com

Check for latest updates



## CN801 (SMPS) ↔ CN201 (Main Board)

Pin No. (SMPS)	Signal (SMPS)	Pin No. (Main Board)	Signal (Main Board)
1	PS-ON	1	SW_POWER
2	STBY	2	A5V_PW
3	GND	3	DGND
4	D15V	4	B15VS_PW
5	GND	5	DGND
6	GND	6	DGND

Pin No. (SMPS)	Signal (SMPS)	Pin No. (Main Board)	Signal (Main Board)
7	D5.3V	7	B5V_PW
8	D5.3V	8	B5V_PW
9	GND	9	DGND
10	D15V	10	B15V_PW
11	D15V	11	B15V_PW
12	D5.3V	12	B5V_PW

## CN802 (SMPS) ↔ CN2000 (Logic Board)

Pin No. (SMPS)	Signal (SMPS)	Pin No. (Logic Board)	Signal (Logic Board)
1	D5.3V	1	5.3V
2	D5.3V	2	5.3V
3	GND	3	GND
4	VS-SIGNAL	4	GND
5	PS-ON	5	PS_ON
6	VS-ON	6	VS_ON

## Power On Sequence

1. **STBY 5V (Pin 2 CN801)**
2. **PS\_ON (approx 3.3V – 0V) (Pin 1 CN801)**
3. **Low Voltages On 5V & 15V (All “B” Signals listed – to Main Board)**
4. **VS\_ON (approx 0V – 3.3V) (Pin 6 CN802)**  
**(Sending Vs to Y & X Boards, & Va to Logic Buffer Boards.)**
5. **TV on with Boot Logo appearing.**

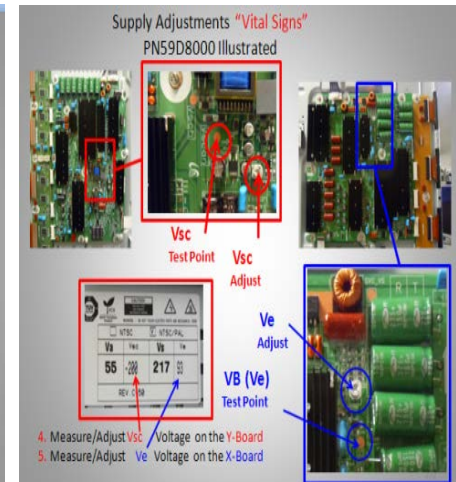
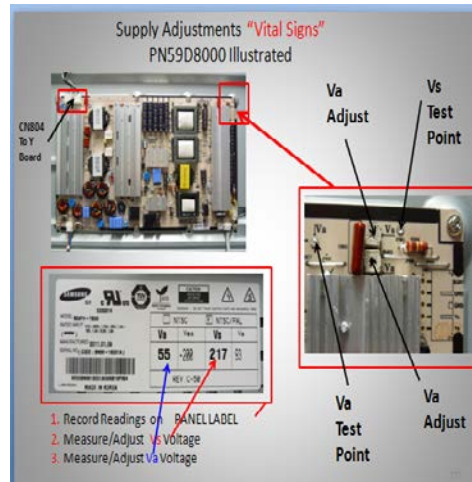
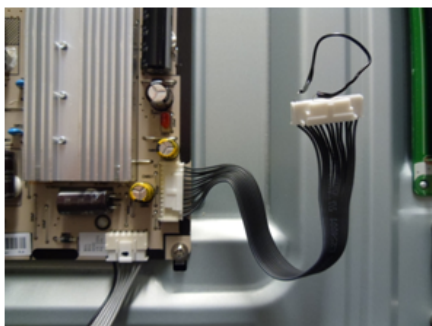
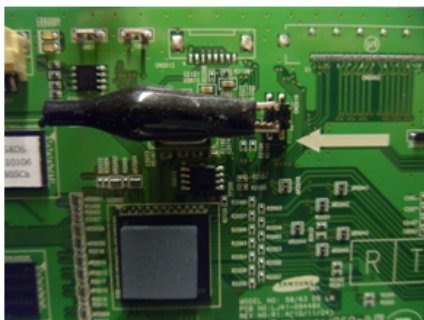
# Fast Track Troubleshooting Manual

## “Troubleshooting”

### Activating Power & Logic Board Test Patterns without Main Board:

1. Remove Power Cord to Panel
2. Short Highest 2 Pin #s on Logic Board Test Jig (Can be 4 Pin or 6 Pin)

3. Remove Power Connector at Main Board (keeping connection to SMPS)
4. Short “Power On” Pin to Circuit Ground on Power Connector to SMPS.
5. Connect Power Cord to Panel



### SAMPLE VIEW & READINGS

### “VITAL SIGNS”

When troubleshooting, It's very important to first check **Vs, Va, Vsc & Ve**. If **Vs** is missing (0V), disconnect power and check for short. Use ohm meter to measure resistance while disconnecting Y-Board & X-Board supply feeds one at a time.

Turn Power On and Test SMPS with short connector removed for correct Vs voltage verification. (It may only come up briefly but to full level). Again be careful not to reconnect Power Connectors until Vs falls below 10V.

If **Va** is low or missing, disconnect Supply Feed to Address Boards and Check to see if SMPS Supply is restored. (Note Va feed normally passes through the Y-Drive to the Address Boards (Logic Buffer Boards)).

If **Vsc** is low or missing and Vs was OK, the failure is with the **Y-Board** since the Y-Board generate the Vsc voltage from the Vs supplied by the SMPS.

If **Ve** is low or missing and Vs is OK, the failure is with the **X-Board** since the Ve is generated by the X-Board from the Vs supplied by the SMPS. Please note in some rare cases the Ve may be generated by the Y-Board feed to the X-Board.)

### Other SMPS Voltages:

Check Low Voltage feeds to the Main Board and other supplied Assemblies.

## Power Supply Trouble Shooting Notes:

### 2010/2011 models

Will not be run with the “X” or “Y” main disconnected. The SMPS will shut down immediately. However if a meter is first connected to the test point when power is applied it will read the correct voltage briefly before shutting down. (You have enough time to check key voltages)

**CAUTION:** Do not reconnect any connectors to SMPS or Y/X Boards until power has been turned off long enough for Vs to drop below 10V or damage will occur to X or Y Boards.

### Over Current Protection

For the SMPS Power Supply... If a short circuit occurs on either the VS or VA voltage lines, the SMPS stops operating, but should not fail. When the short circuit is removed from the source line, the Power Supply will operate normally again. **Many SMPS Supplies are replaced needlessly!**

## TROUBLESHOOTING VIDEO PROBLEMS

### 1. Verify Video Operation

- Customer Picture Test (models available)
- "Display" (If display is OK source is suspected)
- Substitute with known good Source (external DVD or Signal Generator)

### 2. Using Test Patterns in Service Mode

#### - ENTERING SERVICE MODE -

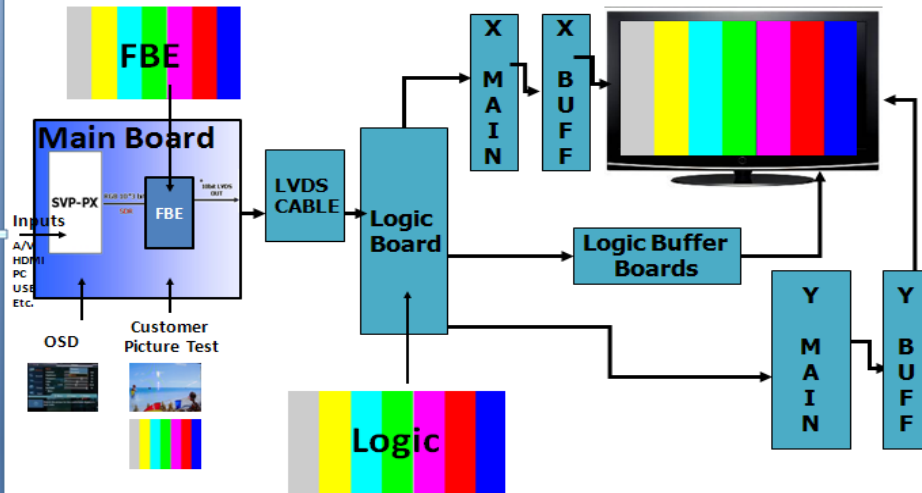
Customer Remote

- Power off
- Mute, 182, Power

Service Remote

- Power On
- Info, Factory

## 2010 PDP Signal Path for Troubleshooting

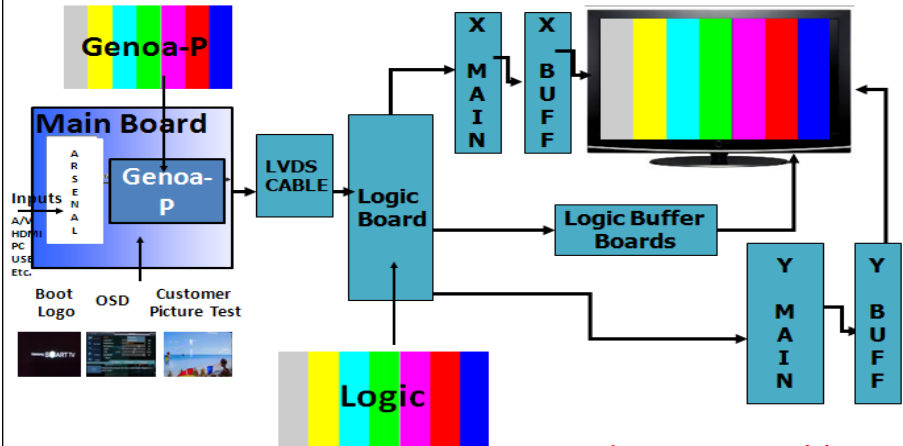


Along with the OSD and the test patterns in the FBE<sub>2</sub> IC on the Main board there are additional test patterns on the Logic board that can be accessed from the service mode.

- Enter Service Mode.
- Check **FBE Pattern** Test Signals. (Main Board)
- Check **Logic Pattern** Test Signals. (Logic Board)

5

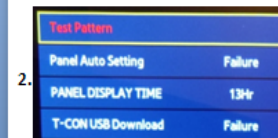
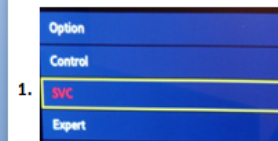
## 2011 PDP Signal Path for Troubleshooting



## 2011 PDP 8000 Series Sample

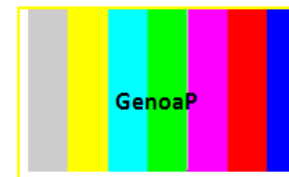
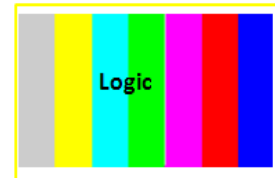
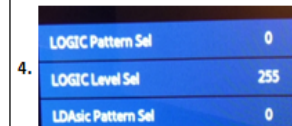
(PNXXD8000 Sample)

Using the Test Patterns to Isolate the Main and Logic or LVDS Cable



**Test Procedure:**

- Access Service Mode & Select **SVC**
- Select **Test Pattern**
- Select **GenoaP Pattern Set**  
Use the right arrow key to scroll through patterns
- Select **Logic Pattern Sel**  
Use the right arrow key to scroll through the patterns.



- If Logic is OK and GenoaP is OK the problem is normally the source or input
- If the Logic is OK and GenoaP is not OK, problem is normally LVDS Cable or Main Board.
- If Log is not OK then the problem is normally the Logic Board (or X or Y Boards)



## ON SCREEN FAILURE EXAMPLES:

## ALIGNMENTS:

1. Check/Adj. VS, VA, VE, & VSC according to Panel Label and Diffusion test. (see bulletins for any special notes before making changes)

### DIFFUSION TEST/ADJ. (cell miss-firing)

- Allow the unit to warm up 15 to 20 minutes
- Access the Burn Protect Sig. Pattern in Cust. Menu.
- Adjust the Vs volts until screen errors are gone in both dark and bright areas.
- Adjust the Vs volts within +/- 10V on the panel label.
- NOTE: Diffusion may appear with aging panels. New panels with Diffusion consult bulletins and/or report problem.



### "Y" Board Failure Examples

Notice how each error contains a horizontal line

These examples show Y board errors, because the Y electrodes run horizontally, errors can often be seen across the screen.

2010 & 2011 Y board errors will be detected by the Logic Board and often create a High Voltage Power Down ("VS ON" to Off) condition.

When failure exists on either the Y-Board or the Y-Buffer Boards, be sure to replace both assemblies. A failure on either Board can create a failure on both assemblies.

### Y Buffer Boards Failures

Y-buffer Failures will often show blown Scan ICs & will create either Panel Power Down

Or

On Screen Errors across the screen as shown in examples

Two Output Lines on Scan IC Are open or connector to Panel is open.

Bottom 2 Scan ICs affected. (12 ICs total = 1/6 of video)

### "X" board Failure Examples

4.3 pixel bar shadow

4.3 pixel bar shadow

- In this left screen example, the sustain signal from the X board is low or missing.
- For 2009 Models and Older: Verify operation of the X board by disconnecting the power supply cable to the X board. If the other boards are working the picture will be dark.
- If the X-Board Power or Y-Board Power is removed, however, on 2010 or 2011 Models, an error will be detected and the VS Supply from the SMP's will be turned off by the Logic Board. A Black Screen (on right) will occur.

### "X" board Failure Examples

4.3 pixel bar shadow

4.3 pixel bar shadow

- In this example the Ve initialize signal is low or missing creating image retention. No Erasing.
- Troubleshoot the X Board by verifying that the Ve Voltage is correct with the label on the Panel.

### Logic Board Failure Examples

Screen vertical Noise Errors usually in Multiple Locations

The examples show the panel illuminated but displays with incorrect noisy video.

### Logic Buffer Board Failure Examples

Normal Video Screen with added Vertical Black, Red, Green, or Blue Bar Errors

The examples show the panel illuminated, display is Normal except for area of Logic Buffer Board Failure.

### Main Board Failure Symptoms

- Main Board errors are similar to logic errors but the problem can be on a single source such as the tuner.
- If the Menu also shows the defect the main board is suspected

### PDP Panel Troubleshooting

Horizontal Error

Magnified View

Plasma Panel Failure Examples

- Plasma Panel failure can usually be identified by observation. Single sub pixel columns or rows that are black or white always are panel failures. Other lines or lines that vary with content are almost never panel failures. Individual pixel errors are almost always panel related.

## 2. Check/Set Option Bytes:

Using the Customer Remote

1. Turn the power off and set to stand-by mode
2. Press the remote buttons in this order: POWER OFF-MUTE-1-8-2-POWER ON to turn the set on.
3. The set turns on and enters service mode. This may take approximately 20 seconds.
4. Press the Power button to exit and store data in memory.
- If you fail to enter service mode, repeat steps 1 and 2 above.
5. Initial SERVICE MODE DISPLAY State

Project	PE5G	PE5G	PE5G
Model	8550	8550	8550
Model Code	PN08B550T2F-XZA	PN08B550T2F-XZA	PN08B550T2F-XZA
No.	ITEMS		
1	Factory Reset	-	-
2	Type	50FSpL4	50FSpL4
3	Type	PE550	PE550
4	TUNER	ALPS	ALPS
5	Region	US	US
6	DDR	SAMSUNG	SAMSUNG
7	Light Effect	Off	Off
8	Inch	50"	50"
9	Exhibition Mode	Off	Off

Option Bytes

Factory Reset	
Type	50FSpL4
Model	PE550
TUNER	ALPS
Region	US
DDR	SAMSUNG
Light Effect	Off
Inch	50"
Exhibition Mode	Off

		Option							
Model Code	Side Label	Type	Model	Tuner	Region	Light Effect	Audio AMP	Ch Table	Front Color
PN59D550C1FXZA	Y101	59DFHcD	US	PD550	SI_ATC	-	-	SAMEX	P-T-R-BK
	Y302	59DFHcD	US	PD550	SI_ATC	-	-	SAMEX	P-T-R-BK
	Y403	59DFHcD	US	PD550	SI_ATC	-	-	SAMEX	P-T-R-BK
	Y404	59DFHcD	US	PD550	SI_ATC	-	-	SAMEX	P-T-R-BK